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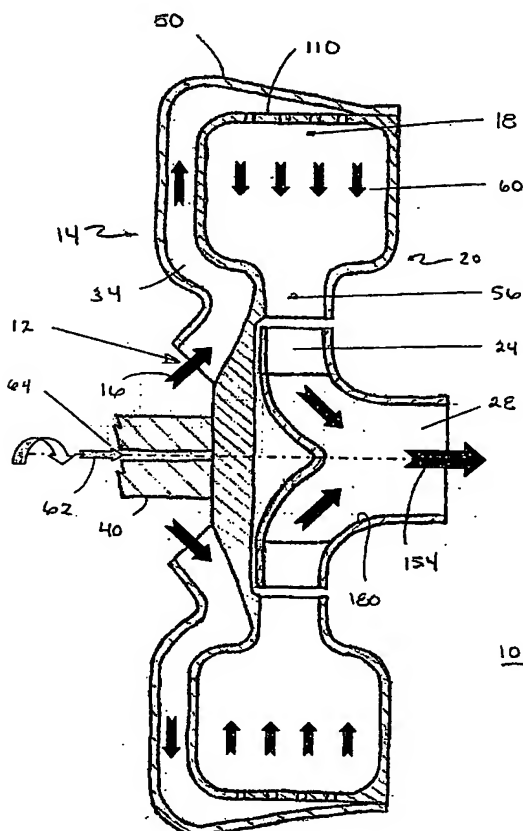
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(54) Title: **ROTATING COMBUSTOR GAS TURBINE ENGINE**



(57) Abstract: A gas turbine engine design that utilizes a rotating combustion system to simplify the design and improve the efficiency and power density when compared to previous small gas turbine designs. The new gas turbine engine design comprises a radial impeller coupled to a rotating combustion system, the flow from which enters a rotating turbine nozzle, the flow then leaves the rotating reference frame and is diffused in a stationary radial diffuser. The combustion system remains geometrically fixed in relation to the impeller and turbine nozzle blades, all of which spin at the same rate of rotation about a common axis of rotation. This invention is enabled by the ability to design and build a combustion system small enough to fit within the flow path of a rotating impeller. The rotating combustion system then eliminates the need for most of the non-rotating or static components within the gas turbine engine thereby reducing the cost of the engine and elimination the reduction in efficiency and power output associated with the static components.

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